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Substitute for form 1449/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> <i>(Use as many sheets as necessary)</i>		<b>Complete if Known</b>	
		Application Number	10/539,107
		Filing Date	June 15, 2005
		First Named Inventor	Tomasz Heyduk et al.
		Art Unit	<del>1645</del> 1634
Examiner Name	To be assigned Bhat N.		
Sheet 1	of 4	Attorney Docket Number	102364

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. <sup>1</sup>	Document Number Number-Kind Code <sup>2</sup> (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appeal
/NB/	1	US 5,270,163	12-14-1993	Gold et al.	
	2	US 5,475,096	12-12-1995	Gold et al.	
	3	US 5,476,766	12-19-1995	Gold et al.	
	4	US 5,543,293	08-06-1996	Gold et al.	
	5	US 5,567,588	10-22-1996	Gold et al.	
	6	US 5,582,981	12-10-1996	Toole et al.	
	7	US 5,637,459	06-10-1997	Burke et al.	
	8	US 5,641,629	06-24-1997	Pitner et al.	
	9	US 5,650,275	07-22-1997	Pitner et al.	
	10	US 5,660,985	08-26-1997	Pieken et al.	
	11	US 5,670,637	09-23-1997	Gold et al.	
	12	US 5,683,867	11-04-1997	Biesecker et al.	
	13	US 5,688,935	11-18-1997	Stephens et al.	
	14	US 5,696,249	12-09-1997	Gold et al.	
	15	US 5,705,337	01-06-1998	Gold et al.	
	16	US 5,712,375	01-27-1998	Jensen et al.	
	17	US 5,723,289	03-03-1998	Eaton et al.	
	18	US 5,723,592	03-03-1998	Eaton et al.	
	19	US 5,750,342	05-12-1998	Stephens et al.	
	20	US 5,756,291	05-26-1998	Griffin et al.	
	21	US 5,763,566	06-09-1998	Jensen et al.	
	22	US 5,763,595	06-09-1998	Gold et al.	
	23	US 5,773,598	06-30-1998	Burke et al.	
	24	US 5,789,157	08-04-1998	Jensen et al.	
	25	US 5,789,160	08-04-1998	Eaton et al.	
	26	US 5,817,785	10-06-1998	Gold et al.	
	27	US 5,840,867	11-24-1998	Toole et al.	
	28	US 5,843,653	12-01-1998	Gold et al.	
	29	US 5,853,984	12-29-1998	Davis et al.	
	30	US 5,858,660	01-12-1999	Eaton et al.	
	31	US 5,861,254	01-19-1999	Schneider et al.	
	32	US 5,864,026	01-26-1999	Jensen et al.	
	33	US 5,874,218	02-23-1999	Drolet et al.	
	34	US 5,958,691	09-28-1999	Pieken et al.	
	35	US 5,962,219	10-05-1999	Gold et al.	
	36	US 5,989,823	11-23-1999	Jayasena et al.	
	37	US 5,998,142	12-07-1999	Gold et al.	

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Sheet 2 of 4	Attorney Docket Number	102364	

/NB/	38	US 6,001,570	12-14-1999	Grossman	
	39	US 6,001,577	12-14-1999	Gold et al.	
	40	US 6,011,020	01-04-2000	Gold et al.	
	41	US 6,013,443	01-11-2000	Heilig et al.	
	42	US 6,030,776	02-29-2000	Eaton et al.	
	43	US 6,048,698	04-11-2000	Eaton et al.	
	44	US 6,083,696	07-04-2000	Biesecker et al.	
	45	US 6,110,900	08-29-2000	Gold et al.	
	46	US 6,114,120	09-05-2000	Jensen et al.	
	47	US 6,127,119	10-03-2000	Stephens et al.	
	48	US 6,147,204	11-14-2000	Gold et al.	
	49	US 6,177,555 B1	01-23-2001	Jayasena et al.	
	50	US 6,207,388 B1	03-27-2001	Grossman	
	51	US 6,225,058 B1	05-01-2001	Munishkin et al.	
	52	US 6,261,774 B1	07-17-2001	Pagratis et al.	
	53	US 6,261,783 B1	07-17-2001	Jayasena et al.	
	54	US 6,291,184 B1	09-18-2001	Gold et al.	
	55	US 6,300,074 B1	10-09-2001	Gold et al.	
	56	US 6,329,145 B1	12-11-2001	Janjic et al.	
	57	US 6,331,398 B1	12-18-2001	Gold et al.	
	58	US 6,344,318 B1	02-05-2002	Gold et al.	
	59	US 6,376,190 B1	04-23-2002	Gold et al.	
	60	US 6,399,302 B1	06-04-2002	Lannigan et al.	
	61	US 6,423,493 B1	07-23-2002	Gorenstein et al.	
	62	US 6,465,188 B1	10-15-2002	Gold et al.	
	63	US 6,506,887 B1	01-14-2003	Smith et al.	
	64	US 6,544,746 B2	04-08-2003	Heyduk	
	65	US 6,613,526 B2	09-02-2003	Heilig et al.	
	66	US 6,680,377 B1	01-20-2004	Stanton et al.	
	67	US 6,716,583 B2	04-06-2004	Gold et al.	
	68	US 6,730,482 B2	05-04-2004	Gold et al.	
	69	US 6,916,613 B2	07-12-2005	Munishkin et al.	
	70	US 2002/0022224 A1	02-21-2002	Hornby et al.	
	71	US 2002/0037506 A1	03-28-2002	Lin et al.	
	72	US 2003/0087239 A1	05-08-2003	Stanton et al.	
	73	US 2003/0207271 A1	11-06-2003	Holwitt et al.	
	74	US 2003/0224435 A1	12-04-2003	Seiwert	
	75	US 2004/0053310 A1	03-18-2004	Shi et al.	
	76	US 2004/0058378 A1	03-25-2004	Kong et al.	
	77	US 2004/0067501 A1	04-08-2004	Kage	
	78	US 2004/0180360 A1	09-16-2004	Wilson et al.	

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/NB/	79	US 2004/0219523 A1	11-04-2004	Stanton et al.	
/NB/	80	US 2005/0069910 A1	03-31-2005	Turner et al.	
/NB/	81	US 2005/0106594 A1	05-19-2005	Ellington et al.	

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, columns, lines, Where Relevant Passages Or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>2</sup> -Number <sup>3</sup> -Kind Code <sup>4</sup> (if known)				
/NB/	82	WO 03/064657 A1	08-07-2003	Saint Louis University		
/NB/	83	WO 03/078449 A2	09-25-2003	Saint Louis University		

Examiner Signature		Date Considered	
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NON-PATENT LITERATURE ARTICLES			
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the authority (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
/NB/	84	BOCK, L.C., et al., "Selection of single-stranded DNA molecules that bind and inhibit human thrombin", <i>Nature</i> (1992) pp. 564-6, Vol. 355.	
	85	BURGSTALLER, P., et al., "Synthetic Ribozymes and the First Deoxyribozyme", <i>Angew. Chem. Int. Ed. Engl.</i> (1995) pp. 1189-92, Vol. 34, No. 11.	
	86	ELLINGTON, A.D., et al., "In vitro selection of RNA molecules that bind specific ligands", <i>Nat.</i> (1990) pp. 818-22, Vol. 346.	
	87	FAMULOK, M., et al., "In Vitro Selection of Specific Ligand-binding Nucleic Acids", <i>Angew. Chem. Int. Ed. Engl.</i> (1992) pp. 979-88, Vol. 31.	
	88	FANG, et al., "Synthetic DNA Aptamers to Detect Protein Molecular Variants in a High-Throughput Fluorescence Quenching Assay", <i>ChemBioChem.</i> (2003) pp. 829-34, Vol. 4.	
	89	GOLD, L., et al., "Diversity of Oligonucleotide Functions", <i>Ann. Rev. Biochem.</i> (1995) pp. 763-97, Vol. 64.	
	90	HAMAGUCHI, et al., "Aptamer Beacons for the Direct Detection of Proteins", <i>Analy. Biochem.</i> (2001) pp. 126-31, Vol. 294.	
	91	HEYDUK, E., et al., "Thiol-reactive, Luminescent Europium Chelates: Luminescence Probes for Resonance Energy Transfer Distance Measurements in Biomolecules", <i>Anal. Biochem.</i> (1997) pp. 216-27, Vol. 248.	
	92	HEYDUK, E., et al., "Conformational Changes of DNA Induced by Binding of <i>Chironomus</i> High Mobility Group Protein 1a (cHMG1a)", <i>J. Biol. Chem.</i> (1997) pp. 19763-70, Vol. 272, No. 32.	
	93	HEYDUK, E., et al., "Homogeneous Fluorescence Assay for Cyclic AMP", <i>Comb. Chem. and High Throughput Screen.</i> (2003) pp. 347-54, Vol. 6.	
	94	HEYDUK, T., et al., "Luminescence Energy Transfer with Lanthanide Chelates: Interpretation of Sensitized Acceptor Decay Amplitudes", <i>Analy Biochem</i> (2001) pp. 60-7, Vol. 289, No. 1.	

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Sheet	4	of	4	Attorney Docket Number	102364

/NB/	95	HEYDUK, T., et al., "Molecular beacons for detecting DNA binding proteins", <i>Nat. Biotech.</i> (2002) pp. 171-6, Vol. 20.	
	96	HEYDUK, E., et al., "Molecular beacons for detecting DNA binding proteins: mechanism of action", <i>Analyt. Biochem.</i> (2003) pp. 1-10, Vol. 316.	
	97	JAYASENA, S.D., "Aptamers: An Emerging Class of Molecules That Rival Antibodies in Diagnostics", <i>Clin. J. Chem.</i> (1999) pp. 1628-50, Vol. 45, No. 9.	
	98	KLUG, S., et al., "All you wanted to know about SELEX (but were afraid to ask...)", <i>Mol. Biol. Rep</i> (1994) pp. 97-107, Vol. 20.	
	99	KNOLL, E., et al., "Unimolecular Beacons for the Detection of DNA-Binding Proteins", <i>Anal. Chem.</i> (2004) pp. 1156-64, Vol. 76, No. 4.	
	100	LI, J.J., et al., "Molecular Aptamer Beacons for Real-Time Protein Recognition", <i>Biochem. and Biophys. Res. Commun.</i> (2002) pp. 31-40, Vol. 292, No. 1.	
	101	MATHIS, G., "Probing Molecular Interactions with Homogeneous Techniques Based on Rare Earth Cryptrates and Fluorescence Energy Transfer", <i>Clinic. Chem.</i> (1995) pp. 1391-7, Vol. 41, No. 9.	
	102	MATLOCK, D.L., et al., "Sequence Determinants for the Recognition of the Fork Junction DNA Containing the -10 Region of Promoter DNA by <i>E. coli</i> RNA Polymerase", <i>Biochem.</i> (2000) pp. 12274-83, Vol. 39, No. 40.	
	103	MILLS, J.B., et al., "Flexibility of Single-Stranded DNA: Use of Gapped Duplex Helices to Determine the Persistence Lengths of Poly(dT) and Poly(dA)", <i>J. Mol. Biol.</i> (1999) pp. 245-57, Vol. 285.	
	104	SELVIN, P.R., et al., "Luminescence Resonance Energy Transfer", <i>J. Am. Chem. Soc.</i> (1994) pp. 6029-30, Vol. 116.	
	105	SELVIN, P.R., et al., "Luminescence energy transfer using a terbium chelate: Improvements on fluorescence energy transfer", <i>Proc. Natl. Acad. Sci USA</i> (1994) pp. 10024-8, Vol. 91.	
	106	TASSET, D.M., et al., "Oligonucleotide Inhibitors of Human Thrombin that Bind Distinct Epitopes", <i>J. Mol. Biol.</i> (1997) pp. 688-98, Vol. 272.	
	107	TUREK, C., et al., "Systematic Evolution of Ligands by Exponential Enrichment: RNA Ligands to Bacteriophage T4 DNA Polymerase", <i>Sci</i> (1990) pp. 505-10, Vol. 249, No. 4968.	
	108	WILSON, D.S., et al., "In Vitro Selection of Functional Nucleic Acids", <i>Ann. Rev. Biochem.</i> (1999) pp. 611-47, Vol. 68.	
	109	XU, W., et al., "Anti-peptide aptamers recognize amino acid sequence and bind a protein epitope", <i>Proc. Natl. Acad. Sci. USA</i> (1996) pp. 7475-80, Vol. 93.	
↓	110	YAMAMOTO, R., et al., "Molecular beacon aptamer fluoresces in the presence of Tat protein of HIV-1", <i>Genes Cells</i> (2000) pp. 389-96, Vol. 5.	

/Narayan Bhat/

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